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material. x, and the reflectivity is measured to obtain the value. mRx. which is applied to the computer 24 along with the efficiency coefficient Zλ. in memory. The computer performs the [multiplication] division of Equation (2) to obtain the absolute reflectance. aRx of the unknown material. x.

I claim:

1. A method for determining an absolute reflectance of material from a microscopic measurement of its measured reflectance in the ultraviolet radiation range, said method comprising the steps of:

determining a value of absolute reflectance of a known material at a predetermined wavelength;

measuring the reflectance of said known material to obtain a value of measured reflectance with a microscope illuminated with radiation at said predetermined wavelength;

with said values of absolute reflectance and measured reflectance. calculating an efficiency coefficient representing all absorption and losses caused by the microscope optical system, its reflectance detectors and its illumination system at said predetermined wavelength;

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measuring the reflectance of an unknown material to obtain a second value of measured reflectance with said microscope illuminated with said radiation at said predetermined wavelength:

5   applying said efficiency coefficient to said second value of measured reflectance to obtain a value of absolute reflectance of said unknown material.

2. The method claimed in claim 1 wherein said step of applying includes the step of [multiplying] _dividing_ said second
10 value by said efficiency coefficient. 173

3. The method claimed in claim 2 wherein said microscope is a reflecting microscope.

4. The method claimed in claim 3 wherein said predetermined wavelength is in the ultraviolet radiation
15 range.

5. The method claimed in claim 2 wherein the determined values of absolute reflectance of said known material, said value of measured reflectance of said known material and said value of measured reflectance
20 of said unknown material are stored in a memory of a computer that performs the step of calculating said efficiency coefficient and said value of absolute reflectance of said unknown material.

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30 6.   The method claimed in Claim 1 wherein said known material has the properties of long-term stable reflectivity, high
35 reflectance, a specular surface and well-known optical constants.

7.   The method claimed in Claim 6 wherein said known material
40 is single crystal silicon.

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